STATE OF CALIFORNIA EDMUND G. BROWN JR., *Governor*

PUBLIC UTILITIES COMMISSION
505 VAN NESS AVENUE
SAN FRANCISCO, CA 94102-3298

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September 26, 2016

Agenda ID #15184
and
Alternate Agenda ID #15185
Ratesetting

TO PARTIES OF RECORD IN APPLICATION 12-05-020

Enclosed are the proposed decision of Administrative Law Judge (ALJ) Darwin E. Farrar previously designated as the presiding officer in this proceeding and the alternate decision of Commissioner Michael Picker. The proposed decision and the alternate decision will not appear on the Commission's agenda sooner than 30 days from the date they are mailed.

Pub. Util. Code § 311(e) requires that the alternate item be accompanied by a digest that clearly explains the substantive revisions to the proposed decision. The digest of the alternate decision is attached.

When the Commission acts on these agenda items, it may adopt all or part of the decision as written, amend or modify them, or set them aside and prepare its own decision. Only when the Commission acts does the decision become binding on the parties.

Parties to the proceeding may file comments on the proposed decision and alternate decision as provided in Pub. Util. Code §§ 311(d) and 311(e) and in Article 14 of the Commission's Rules of Practice and Procedure (Rules), accessible on the Commission's website at www.cpuc.ca.gov. Pursuant to Rule 14.3, opening comments shall not exceed 25 pages.

Comments must be filed pursuant to Rule 1.13 either electronically or in hard copy. Comments should be served on parties to this proceeding in accordance with Rules 1.9 and 1.10. Electronic and hard copies of comments should be sent to ALJ Farrar att edf@cpuc.ca.gov and Commissioner Picker's advisor, Nicolas Chaset, at nlc@cpuc.ca.gov. The current service list for this proceeding is available on the Commission's website at www.cpuc.ca.gov.

The Commission may hold a Ratesetting Deliberative Meeting to consider this item in closed session in advance of the Business Meeting at which the item will be heard. In such event, notice of the Ratesetting Deliberative Meeting will appear in the Daily Calendar, which is posted on the Commission's website. If a Ratesetting Deliberative Meeting is scheduled, ex parte communications are prohibited pursuant to Rule 8.3(c)(4)(B).

/s/ RICHARD SMITH for
Karen V. Clopton, Chief
Administrative Law Judge

KVC:jt2

Attachment

ATTACHMENT

DIGEST OF DIFFERENCES BETWEEN ADMINISTRATIVE LAW JUDGE DARWIN FARRAR'S PROPOSED DECISION AND THE ALTERNATE PROPOSED DECISION OF PRESIDENT MICHAEL PICKER

Pursuant to Public Utilities Code Section 311(e), this is the digest of the substantive differences between the proposed decision of Administrative Law Judge Darwin Farrar (mailed on September 26, 2016,) and the proposed alternate proposed decision of President Michael Picker (mailed on September 26, 2016).

The proposed decision denies San Diego Gas and Electric's (SDG&E) application for a Certificate of Public Convenience and Necessity (CPCN) for the South of Orange County Reliability Project (SOCRE), and instead approves a CPCN for the Alternative J project, which was identified through the California Environmental Quality Assessment (CEQA) phase of the proceeding. The alternate proposed decision approves the CPCN for the SOCRE project as proposed in SDG&E's application.

Decision **ALTERNATE PROPOSED DECISION OF COMMISSIONER PICKER (Mailed 9/26/2016)**

BEFORE THE PUBLIC UTILITIES COMMISSION OF THE STATE OF CALIFORNIA

In The Matter of the Application of SAN DIEGO GAS & ELECTRIC COMPANY (U 902 E) for a Certificate of Public Convenience and Necessity for the South Orange County Reliability Enhancement Project.	Application 12-05-020 (Filed May 18, 2012)

ALTERNATE PROPOSED DECISION
GRANTING CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

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ALTERNATE PROPOSED DECISION GRANTING CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY

Summary

This decision grants San Diego Gas & Electric Company a certificate of public convenience and necessity to construct the South Orange County Reliability Enhancement Project as proposed. As the lead agency for environmental review of the project, we find that the Final Environmental Impact Report (FEIR) prepared for this project, with one modification, meets the requirements of the California Environmental Quality Act. Although the FEIR identifies an environmentally superior alternative for the purposes of environmental review, we find that the FEIR's environmentally superior alternative is infeasible because it does not adhere to the technical planning standards set by the California Independent System Operator that govern the transmission system. We also find there are overriding considerations that merit construction of the project notwithstanding its significant and unavoidable environmental impacts.

We adopt a maximum project cost of $318 million. This proceeding is closed.

1. Background

1.1. General

The San Diego Gas & Electric Company (SDG&E) South Orange County (SOC) service area is located at the northern end of SDG&E's service territory and has more than 129,000 electric customers. This service area represents approximately 10% of SDG&E's total customer load.

In its 2010 - 2011 transmission planning process the California Independent System Operator (CAISO) identified a reliability need in the SOC area.[1] According to the CAISO, the reliability need was primarily related to the exceedance of applicable ratings during multiple Category C contingencies as defined in the North American Electric Reliability Corporation (NERC) mandatory transmission planning standards.[2] In accordance with the applicable CAISO guidelines, SDG&E submitted a potential solution to the reliability concern during the 2010 Request Window.[3] SDG&E also identified the need for extensive capital upgrades at the Capistrano 138 kilovolt (kV) substation necessitating a rebuild of the facility.[4] SDG&E's proposed projects highlighted both the CAISO-identified reliability concerns and what SDG&E identified as shortcomings in being able to accommodate planned maintenance and construction outages in the area.

On May 18, 2012, pursuant to Sections 1001, 1002, 1003.5 and 1004 et seq. of the California Public Utilities Code (Pub. Util. Code); the California Environmental Quality Act (CEQA) of 1970, as amended (California Public Resources Code Section 21000 et seq.); the CEQA Guidelines as set forth in Title 14 of the California Code of Regulations, Sections 15000, et seq.; General Order 131-D, and Rules 2.1, 2.2, 2.3, 2.4, 2.5 and 3.1 et al. of the California Public Utilities Commission (Commission or CPUC) Rules of Practice and Procedures (Rules), SDG&E filed its Application (Application) for a Certificate of Public Convenience and Necessity (CPCN) for the SOC Reliability Enhancement (SOCRE) Project. As proposed, the SOCRE Project has an estimated cost of

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[1] Exhibit CAISO-500 at 8.

[2] Exhibit CAISO-500 at 9.

[3] Exhibit CAISO-500 at 8.

[4] Exhibit CAISO-500 at 8.

approximately $381 million.[5] According to SDG&E, the SOCRE Project is needed to improve reliability, replace aged equipment, and accommodate future customer load growth in the SOC service area.

Protests to SDG&E's Application were filed on June 20, 21, and 22, 2015 by the California Public Utilities Commission's Division of Ratepayer Advocates (DRA),[6] the City of San Juan Capistrano (SJC), and Forrest Residents Opposing New Transmission Lines (FRONTLINES), respectively.

1.2. The SDG&E Application

SDG&E states that the purpose of the SOCRE Project is to provide increased electric network reliability and reduce the risk of a potential system-wide outage affecting all of SDG&E's customers and substations in the SOC area. SDG&E is proposing to rebuild and upgrade the existing aged 138/12kV Capistrano Substation with a new 230/138/12kV substation and replace an existing 138kV transmission line (TL13835) with a new 230kV double-circuit extension between SDG&E's Capistrano and Talega Substations. By adding a new 230kV double-circuit extension, the SOCRE Project will bring a new 230kV transmission source into SOC for increased capacity and reliability.

According to SDG&E, the SOCRE Project is needed to comply with mandatory NERC, Western Electric Coordinating Council (WECC) and CAISO standards. SDG&E claims to have identified several areas of concern that must be resolved in order for SDG&E to meet its obligation to serve and maintain

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[5] SDG&E Rebuttal Testimony at 16.

[6] DRA has since changed its name to the Office of Ratepayer Advocates (ORA) and may be referred throughout this decision as DRA or ORA.

reliable customer service in the S service area. SDG&E breaks the SOCRE Project down into the following primary components:[7]

1. Within SDG&E's existing property, build a new 230kV partially enclosed gas insulated substation at the existing 138/12kV Capistrano Substation site;
2. Within SDG&E's existing property, relocate, rebuild and expand the existing 138kV facility with a new partially enclosed gas insulated substation;
3. Relocate, rebuild and expand existing 12kV facilities within SDG&E's existing Capistrano Substation property;
4. Replace an existing 138kV transmission line (TL13835) with a new 230kV double-circuit extension between SDG&E's Capistrano and Talega Substations, described as follows:
   - Within SDG&E's existing Rights of Way build approximately 7.5 miles of new overhead double-circuit 230kV transmission lines;
   - Acquire new Rights of Way for approximately 0.25 mile of new overhead 230kV transmission line adjacent to SDG&E's Talega Substation;
   - Within SDG&E's existing Vista Montana street easement position, replace 0.36 mile of existing 138kV underground transmission system with one new 230kV underground transmission line; and
   - Install 0.36 mile in franchise position within Vista Montana Street one 230kV underground transmission line.
5. Realign existing 69kV and 138kV transmission lines near the Talega Substation;
6. Relocate the three existing 138kV transmission lines from the Capistrano Substation into the new San Juan Capistrano

[7] SDG&E SOCRE Application at 4-5.

Substation. Loop-in the two 138kV transmission lines that currently bypass the existing substation into the new San Juan Capistrano Substation. Underground all of the westbound 138kV transmission line getaways;

7. Install approximately 81 new steel transmission line poles (49 - 230kV poles, 23 - 138kV poles, and 9 - 69kV poles);
8. Remove approximately 86 wood structures/poles, 12 steel poles, and 5 steel lattice towers;
9. Reconfigure the Talega Substation to accommodate the new TL13835 connection; and
10. Undertake other activities required to implement the Proposed Project, including upgrading the communications, controls and relays for corresponding facilities, as required.

According to SDG&E, the SOCRE Project will result in substantial electric service and reliability benefits including increased electric network reliability and the reduction of risk of a potential system-wide outage affecting all of SDG&E's customers and substations in the SOC area. In addition to these electric service benefits, SDG&E asserts that the SOCRE Project will increase fire safety within fire-prone areas and reduce the number of overhead electric facilities within specific locations along the SOCRE Project. SDG&E further notes that the SOCRE Project will take place almost entirely within the footprint of existing facilities and will not introduce electric facilities uses where none currently exist. In particular, recreational and park areas within the SOCRE Project site already include extensive overhead electric transmission and distribution facilities - these existing facilities will be replaced with new facilities and the SOCRE Project will not increase or otherwise affect the use of the recreational/park areas.

1.3. Protest to the SDG&E Application

1.3.1. ORA

ORA's timely filed protest challenges numerous contentions made by SDG&E in support of the proposed project. In particular, ORA questions:

- SDG&E's assertion that the SOCRE Project is needed to reduce the risk of uncontrolled outages for all of South Orange County load. In particular, ORA notes that this is a broadly termed risk and SDG&E failed to establish why the SOCRE Project is a cost-effective approach towards resolving such a broad risk.
- SDG&E's support for its narrower claim that the SOCRE Project would reduce the risk of a controlled interruption of a portion of the South Orange County load.
- SDG&E's contention that the SOCRE Project is needed to comply with mandatory NERC, WECC, and CAISO transmission and operations standards.
- SDG&E's statement that the SOCRE Project is needed to replace aging equipment and to increase capacity.
- Whether SDG&E has provided sufficient evidence to substantiate its claim that the SOCRE Project is needed to improve transmission and distribution operating flexibility.
- SDG&E's assertion that the existing Talega Substation configuration restricts the conditions under which maintenance can be done, and creates 18 different outage scenarios that could cause uncontrolled loss of customer load in South Orange County.
- The basis for and accuracy of SDG&E's claim that SOC area has been experiencing continuing load growth of over 15 percent in the last ten years, has an expected load growth of 10 percent in the next ten years, that the 138kV system has reached maximum capacity, and that the SOCRE Project is needed for additional capacity, reliability, and operational flexibility.
- SDG&E's contention that it would locate the SOCRE Project facilities within existing transmission corridors, SDG&E's rights

> of way, and utility owned property, and the need for more expensive undergrounding which SDG&E proposed for portions of the SOCRE Project.

ORA proposes to conduct discovery to ascertain whether or not SDG&E has met its burden of proof on these issues.

1.3.2. The City of San Juan Capistrano

The SOCRE Project includes replacement of the existing 138/12kV Capistrano Substation which is located within a residential district near downtown San Juan Capistrano and the historic San Juan Capistrano Mission. The SOCRE Project would include construction of a 10-foot tall, 360 feet in circumference security wall, replacement of existing utility towers with taller steel poles, and demolition of a circa 1918 building on the existing substation that is listed on the City's "Buildings of Distinction" listing to replace it with two 50-feet tall buildings.

The SJC Protest notes that the Capistrano Substation is located in the heart of the City of San Juan Capistrano, downtown near the core of the city and within well-established residential communities. After identifying its interest in protecting the safety and welfare of its residents and assuring that any project approved by this Commission has the least impacts to city residents, the SJC protest questions the adequacy of SDG&E's consideration of community values, historical and aesthetic values, and the sufficiency of SDG&E's examination of potential alternative locations for expansion of its facilities.

1.3.3. Forest Residents Opposing New Transmission Lines

On June 22, 2012 FRONTLINES filed its protest to the SDG&E application. FRONTLINES raises three issues with the SOCRE Project. First, according to FRONTLINES, the project proposed by SDG&E differs from the project approved by the CAISO. Second, FRONTLINES asserts that the fundamental purpose of the project approved by the CAISO is to bring another source to SDG&E's service territory in SOC by connecting the Capistrano Substation to the San Onofre Nuclear Generating Station (SONGS). FRONTLINES then argues that since the SONGS generation units were taken off-line indefinitely, there will not be any generation for the SOCRE Project to interconnect to for the foreseeable future. Finally, FRONTLINES asserts that the project would lead to the construction of new above ground transmission lines in heavily developed regions which have been categorized as either High Fire Zones or Very High Fire Zones. In addition to the substantive issues identified above, FRONTLINES questions the reasonableness of SDG&E's request to file portions of the Proponents Environmental Assessment (PEA) under seal.

1.4. The Prehearing Conference

A Prehearing Conference (PHC) was held on November 19, 2014. Given the options and outcomes set forth in the screening report, the parties were asked whether they believed it more prudent to sequence the proceeding and first address the question of whether the Project is needed to ensure reliability in the area through the 10-year planning forecast.

For its part, after urging that reliability be examined with both the NERC standards and load forecast in mind, SDG&E appeared to favor not sequencing the proceeding so as to avoid duplication and delay. CAISO agrees with SDG&E. In contrast, after asserting that the Commission previously used a 5-year planning forecast, FRONTLINES urges that the proceeding be sequenced to allow an assessment of need that takes into account the most current information available. For its part, ORA defers to the Commission's discretion.

1.5. The Assigned Commissioner's Ruling

The Scoping Memo and Ruling of Assigned Commissioner (Scoping Memo) issued on February 23, 2015. In addition to establishing the procedural schedule and assigning the Presiding Officer, the Scoping Memo identified the following issues as within the scope of this proceeding:

1. Is there a need for the SOCRE Project? This issue is limited to whether there is a public convenience and necessity for the benefits that the SOCRE Project might offer, but not whether this particular project is needed to achieve those benefits. This issue encompasses, but is not limited to, the following considerations:

    a. Is there a genuine risk of uncontrolled outages for the entire SOC load, and if so, is the SOCRE Project necessary to reduce this risk in an appreciable way or are there alternative ways to reduce this risk?

    b. Reliability: Is there a genuine risk of a controlled interruption of a portion of the SOC load, as SDG&E asserts, and if so, is the SOCRE Project necessary to reduce this risk in an appreciable way or are there alternative ways to reduce this risk?

    c. Is the SOCRE Project necessary to comply with mandatory NERC, WECC, and CAISO transmission and operations standards or are there other ways to comply with the standards above?

    d. What is the projected load growth over the next 10 years in the SOCRE Project area?

    e. Is the SOCRE Project necessary to accommodate the projected load growth in the Project area over the next ten years, or are there alternative ways to accommodate this load growth?

2. What are the significant adverse environmental impacts of the SOCRE Project?

3. Are there potentially feasible mitigation measures or SOCRE Project alternatives that will avoid or lessen the significant adverse environmental impacts?

4. As between the SOCRE Project and the SOCRE Project alternatives, which is environmentally superior?
5. Are the mitigation measures or SOCRE Project alternatives infeasible?
6. To the extent that the SOCRE Project and/or alternatives result in significant and unavoidable adverse environmental impacts, are there overriding considerations that nevertheless merit Commission approval of the SOCRE Project or alternative?
7. Was the Environmental Impact Report (EIR) completed in compliance with CEQA, did the Commission review and consider the EIR prior to approving the SOCRE Project or an alternative, and does the EIR reflect our independent judgment?
8. Is the SOCRE Project and/or alternative designed in compliance with the Commission's policies governing the mitigation of electromagnetic field effects using low-cost and no-cost measures?
9. What is the maximum cost of the SOCRE Project, if approved?
10. Does the SOCRE Project design comport with Commission rules and regulations and other applicable standards governing safe and reliable operations?

On March 30, 2015 the Assigned Commissioner's Ruling Identifying Issues Requiring Evidentiary Hearings clarified that relative to the issues identified (above) that are within the proceeding:

- Evidentiary hearings are only required for issues 1 and 9;
- Issue no. 5 (infeasibility of mitigation measures and/or project alternatives) is a material factual issue and evidentiary hearings are needed if any party contests it; and
- Issue no. 10 (project design's compliance with standards governing safe and reliable operations) is a material factual issue and parties may or may not request evidentiary hearings on this matter.

1.6. Evidentiary Hearings

At the request of the parties, hearings were scheduled to begin on June 15, 2015 and conclude two days later on June 17, 2015. Though SDG&E provided its direct written testimony on April 7, 2015, and Supplemental testimony on September 7, 2015, SDG&E provided what it identified as "corrected" direct written testimony on November 6, 2015, just 3 days before the start of hearings.[8] FRONTLINES (joined by ORA), moved to strike this testimony on claims that it presented new, eleventh-hour testimony. The FRONTLINES Motion to Strike was discussed on the first day of hearings. The presiding ALJ reviewed the proffered testimony and determined that it went far beyond correcting typographical errors or updating numbers, and included more than twenty pages of new testimony. The new testimony was found to be beyond the corrections allowed by Commission Rule 13.8 and deemed prejudicial to other parties, as they were denied a meaningful opportunity to respond to the new testimony.[9] The presiding ALJ then directed SDG&E to strike the additional new testimony but provided that SDG&E could resubmit its testimony with typographical error corrections and updated numbers.

So as to avoid delaying hearings while waiting for SDG&E to revise its testimony, cross-examination was initially based on the improper SDG&E corrected testimony (SDG&E Exhibit 1.1), excluding sections that contained new testimony. Shortly thereafter, SDG&E provided a second version of its corrected

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[8] SDG&E Exhibit 1.1

[9] When queried as to why it did not make these changes more than a month prior – when it had the information the changes were based on, SDG&E asserted that it didn't have sufficient resources to allow its people to review their testimony in a timelier fashion.

testimony.[10] On review by the parties and presiding ALJ, SDG&E's resubmitted testimony was again found to include new testimony and not comply with the ALJ's directive. SDG&E was directed to serve yet another version of its corrected testimony and fully comply with the presiding ALJ's prior directives.

Hearings, which the parties estimated would take three days, required nine days to complete and concluded on December 3, 2015. At the conclusion of hearings the parties agreed that Opening Briefs would be filed on January 11, 2016, and Reply Briefs would be filed on February 1, 2016.

2. Environmental Review

2.1. The Environmental Impact Reports

2.1.1. Background

In July of 2014, the Commission's Energy Division staff issued its CEQA Alternatives Screening Report (Screening Report). This report presents the results of the Commission's process of selection and review of project alternatives that were identified in the applicant's PEA, formulated by the Commission Staff, and/or proposed during public scoping for the EIR. The alternatives screening process identified and reviewed the following 11 potential alternatives to the SOCRE Project:

- Alternative A – No Project.
- Alternative B1 – Reconductor Laguna Niguel–Talega 138kV Line.
- Alternative B2 – Use of Existing Transmission Lines (Additional Talega–Capistrano 138kV Line).
- Alternative B3 – Phased Construction of Alternatives B1 and B2.
- Alternative B4 – Rebuild South Orange County 138kV System.

[10] SDG&E Exhibit 1.2

- Alternative C1 – SCE 230kV Loop-in to Capistrano Substation.
- Alternative C2 – SCE 230kV Loop-in to Capistrano Substation Routing.
- Alternative D – SCE 230kV Loop In to Reduced-Footprint Substation at Landfill.
- Alternative E – New 230kV Talega–Capistrano Line Operated at 138kV.
- Alternative F – 230kV Rancho Mission Viejo Substation.
- Alternative G – New 138kV San Luis Rey–San Mateo Line and San Luis Rey Substation Expansion.

The CPUC, as the Lead Agency as defined by CEQA, prepared a Draft EIR (DEIR) for the SOCRE Project and circulated the DEIR for public comment for a 45-day period beginning February 23, 2015, and ending April 10, 2015. In February of 2015, consistent with the provisions of Section 15088.5 of the CEQA Guidelines, portions of the DEIR were revised with new information, and the revised chapters and sections were recirculated. Among other things, the Recirculated DEIR contained Alternative J which was suggested during review of the DEIR.[11] The Recirculated DEIR added a description of the alternative to Chapter 3, "Description of Alternatives." A description of the environmental effects resulting from the implementation of the alternative, as compared to the applicant's proposal, was added to Chapter 5, "Comparison of Alternatives." In addition, the Recirculated DEIR identified additional significant impacts on biological resources, cultural resources, and land use and planning from construction and operation of the proposed project that were not previously

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[11] Identified as "Alternative J – SCE 230kV Loop-In to Trabuco Substation" in the Recirculated Draft EIR (RDEIR).

disclosed in the DEIR. Consistent with the provisions of Section 15088.5 of the CEQA Guidelines, comments on the Recirculated DEIR were received over a 45-day period starting August 10, 2015, and ending September 24, 2015.

On April 25, 2016 the final EIR issued. The final EIR documents and responds to all written and oral comments made on the DEIR, as required by CEQA. As also required by CEQA, the final EIR examines the environmental impacts of the proposed project and a number of alternatives, including the No Project Alternative; it identifies their significant and unavoidable environmental impacts and the mitigation measures that will avoid or substantially lessen them, and identifies the environmentally superior alternative pursuant to CEQA.

2.1.2. EIR Findings

2.1.2.1. Project Objectives

The objectives of the proposed project defined by the CPUC for CEQA review reflect the purpose of the proposed project as described in the PEA and applicant responses to CPUC requests for information. The following three objectives were developed with consideration of the project objectives presented in the PEA and the outcome of CAISO and CPUC reviews of the proposed project. The objectives, as defined by the CPUC, were used as a basis for the development of a reasonable range of alternatives as required by CEQA. The basic objectives of the proposed project are to:

1. Reduce the risk of instances that could result in the loss of power to customers served by the SOC 138kV system through the 10-year planning horizon;
2. Replace inadequate equipment at Capistrano Substation; and

3. Redistribute power flow of the applicant's SOC 138kV system such that operational flexibility is increased.

The EIR concludes that all the Alternatives would meet project Objectives 1 and 2 (as defined in Section 1.3.1 of the EIR), and ensure each of the potential Category C (N-1-1) contingencies identified by the applicant and CAISO would be avoided through the 10-year planning horizon. However, the EIR determined that Alternatives A, B.1, B.2, B.3, and B.4 would not redistribute the power flow of the applicant's SOC 138kV system as required by Objective 3.

2.1.2.2. Significant Adverse Environmental Impacts

An EIR must identify the significant adverse impacts of the proposed project, as well as a reasonable range of alternatives to the SOCRE Project that feasibly attains most of the basic project objectives but avoids or substantially lessens any of the significant effects of the project. (CEQA Guidelines § 15126.6.)

Under the No Project Alternative, the proposed project would not be constructed. The No Project Alternative assumes no change in existing operations, i.e., it presumes SDG&E would (and could) continue to operate the existing electrical facilities and no reliability improvements would be made. The No Project Alternative represents the status quo and, consequently, would result in no environmental impacts over existing baseline conditions. The EIR determined that the CEQA-required No Project Alternative is the only alternative that would not result in new environmental impacts.

CEQA Guidelines § 15126(d)(2) stipulates that, "if the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." Based on the comparison of the environmental impacts of the alternatives, the final EIR identifies the environmentally superior alternative other than the No Project Alternative as Alternative J.

If the proposed project has significant unavoidable environmental impacts, the Commission may nevertheless approve the proposed project if there are overriding considerations. Even with the identification of an environmentally superior alternative, as is the case in the EIR here, where the Commission finds that the environmentally superior alternative is infeasible, then the Commission is not constrained in approving a project other than the EIR's environmentally superior project.

3. Public Convenience and Necessity

As stated in the Scoping Memo, the question of need is framed as whether there is a public convenience and necessity for the benefits of the proposed project, not whether the proposed project in particular is needed to achieve those benefits.

3.1. Forecasted Demand

3.1.1. Background

As shown in Table 1 below, SDG&E originally claimed that its 2014 forecast showed SOC reaching 490 Megawatts (MW) of demand beyond 2023.

Table 1: SDG&E's South Orange County 2014 Load Forecast[12]

Substation	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Total South Orange County	427.8	433.5	440.1	446.9	453.2	459.5	465.7	471.9	478.1	481.1

12 SDG&E Opening Brief at 26, citing Exh. SDG&E 2.2 (Supp. Testimony at 57 ln.19-20).

Though based on the same data and making use of the same computer models, the Screening Report revised the forecasted need for power. In contrast to the SDG&E forecast, the Screening Report finds:

- Recorded peak load on the South Orange County 138kV system has dropped each year since 2007.
- The existing system is capable of handling 400 to 499 MW of power during normal conditions and 500 MW or more during temporary peak load conditions.
- The rated capacity of the 138kV system is approximately 580 MW.
- The applicant's current power flow data do not indicate that system loads may exceed 500 MW until after 2024.[13]
- The applicant does not forecast that any of the 138/12kV substations within its South Orange County 138kV system would exceed their operating capacity through 2024.

As shown in Table 2 below, SDG&E subsequently argues that while its 2014 forecast showed SOC reaching 490 MW beyond 2023, its 2015 load forecast shows SOC reaching 490 MW in 2023.

Table 2: SDG&E South Orange County's 2015 Load Forecast[14]

Substation	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total South Orange County	443.3	449.9	456.6	462.8	469.0	475.4	481.4	487.6	493.9	500.2

[13] The applicant's latest forecast assumes that continued development of the Rancho Mission Viejo Substation during the next 10 to 20 years.

[14] SDG&E Opening Brief at 26, citing Exh. SDG&E 2.2 (Supp. Testimony at 57 ln.19-20).

3.1.2. Parties' Positions

As noted by the CAISO:

> The applicant for a CPCN has the burden of affirmatively establishing the reasonableness of all aspects of its application. Intervenors do not have the burden of proving the unreasonableness of [the applicant's] showing.[15]

SJC, FRONTLINES, and ORA contest SDG&E's forecasts and argue that SDG&E's demonstration of need for the project is based on unrealistic and unsupported Peak Load Forecasts. Specifically, SJC argues that the Proposed Project is excessive to meet the stated objectives. FRONTLINES notes that the CAISO updated its Net Peak Load forecast for SOC since approving SOCRE in 2011, and now predicts a 446 MW peak load in 2024 and a 453 peak load in 2025.[16]

ORA agrees with the FRONTLINES and SJC assessments of SDG&E's SOC load forecast and points out that "[t]he peak load for the SOC area for 2015 was only 415 MW, below SDG&E's load forecasts of 433.5 MW and 443.3 MW."[17] ORA also notes that SDG&E's 2014 load forecast was similarly inflated (the actual peak load for the SOC area was 415.3 MW). ORA argues that historical loads in the area, the actual peak load results for 2014 and 2015, and SDG&E's admission that its non-coincident load forecasts for SOC have decreased since 2011, call into question the credibility of SGD&E's forecast.

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[15] CAISO Opening Brief at 2, citing Decision (D.) 10-12-052, *In the Matter of the Application of the Southern California Edison Company (U 338 E) for a Certificate of Public Convenience and Necessity for the Eldorado-Ivanpah Transmission Project.*

[16] FRONTLINES Opening Brief at 7, citing CAISO Exhibit 505.

[17] ORA Opening Brief at 7.

FRONTLINES identifies the January 2015 SDG&E forecast as unreliable both because it assumed a 2023 peak SOC load of 481 MW which is higher than the CAISO's most recent forecast, and because the SDG&E forecast was revised upward three months later to project a 3% higher 2023 peak SOC load of 494 MW, while the CAISO forecast was revised downward.[18] FRONTLINES concludes that SDG&E's inflated forecast result in SDG&E falsely identifying numerous contingency events. Specifically, according to FRONTLINES, because SDG&E erroneously assumes a minimum 466 MW peak load level, the Category C overload concerns it predicts will not occur within the 10-year planning horizon, if at all.

ORA agrees with FRONTLINES and notes that SDG&E's having been less than forthcoming with contradictory 2015 peak load data (despite the numerous corrections made by SDG&E to its showing), further calls into question SDG&E's claim that load is increasing in the SOC area.[19]

3.1.3. Conclusion – Forecasted Demand

We note and are troubled by SDG&E's recalcitrance in providing data to the Commission's CEQA team. At the same time, SDG&E's 2014 forecast was introduced into the record of this proceeding at its inception and both the 2014 and 2015 forecast are part of the record on the matter of public convenience and necessity. Moreover, subsequent to the approval of the 2010-2011 transmission plan, the CAISO acknowledges the change in load levels and load forecast, but still verified the updated forecast and concludes that significant reliability

[18] FRONTLINES Opening Brief at 8, citing SDGE Exhibit 1.3R, Table 4-1.

[19] ORA Reply Brief at 2.

concerns continue.[20] The Commission delegates the function of conducting environmental reviews to its CEQA team, which must conduct its environmental review with the best information available to it at the time it conducts its review. Ultimately, however, the EIR is the Commission's environmental document to certify. We decline to substitute credible record evidence on forecasted demand for the CEQA team's lower need forecast. Instead, we must afford parties sufficient due process to review and challenge evidence, while also weighing the credibility of evidence. SDG&E's 2014 forecast captures these two requirements: it was introduced sufficiently early in this proceeding for parties to analyze, formed the basis for the CEQA review, and its credibility was supported by SDG&E and CAISO, the SOC system's owner and operator, respectively.

Moreover, as discussed below, load growth is not determinative of the need for a project to address the reliability concerns for SOC. Where, as here, the single 230kV source of power to serve SOC is in need of upgrades and, absent a second 230kV power source, the SOC area will not meet NERC reliability standards and CAISO Planning Standard, more factors than just projected load growth must be considered.

3.2. Reliability and Compliance with the NERC Standards and CAISO Planning Standards

3.2.1. Risk of Uncontrolled Outages to All or Portions of SOC

SDG&E argues that there is a genuine risk of uncontrolled outages to all or portions of the SOC area without the proposed project. Although the risk is small, the consequences can be drastic. FRONTLINES agrees that this risk,

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[20] CAISO-500 at 10.

though small, exists, but states that the proposed project either will not reduce all risks to outages to the entire SOC, or else the risk of outages to portions of SOC can be mitigated by minimal modifications to the system. ORA in turn disagrees, arguing that load forecasts do not justify any project. ORA rests its disagreement with the project need on projected load growth in the SOC area.

SDG&E's SOC customers are served by a single 230kV power source at Talega Substation. SDG&E delivers power from the Talega Substation to SOC customers via 138kV transmission lines to various distribution substations, including the 138kV Capistrano Substation. Failure at Talega would cause widespread disruption of service to the SOC area. No party disputes this.

Failure at the Talega Substation can occur as a result of equipment failure, fire (including wildfire), or other catastrophic events. The Talega Substation is over 35 years old, installed at a time when the SOC area's demand was drastically different from today, is in critical need of updating, and has a non-standard configuration in a footprint that is inadequate for the upgrades needed to maintain and expand the substation in order to meet SOC needs. Because of space constrains at Talega, the four transformers are in close proximity to each other, thus increasing the impact if an adjacent transformer or other equipment catches fire, explodes, or fails. SDG&E has estimated that the chance of one of Talega Substation's four transformers failing catastrophically is near 1% per year.

There are other risks. Talega is in a "very high" risk area for fires, including wildfires. SOC has a significant risk of seismic shaking, and given Talega's vintage, the substation does not meet current seismic standards. Moreover, there is a risk of vandalism or terrorism at utility substation, a risk substantiated by the U.S. Department of Homeland Security and unfortunately, in the case of vandalism, a possibility that has been realized by electric utilities regulated by this Commission.

The Talega Substation has a non-standard bus configuration on a space that is inadequate to comfortably perform maintenance, which increases the risk of service interruption during each planned maintenance. SDG&E claims there are 29 scenarios under which all SOC load would be affected from a forced outage during planned maintenance.

Moreover, there is a risk of a prolonged outage to the entire SOC area if there is a forced outage at Talega. An outage could last anywhere from a few hours to several weeks, depending on the extent of damage at Talega. The proposed project is intended to mitigate these risks by providing a second 230kV source to SOC.

SDG&E asserts that there are numerous risks of uncontrolled outages to portions of SOC by 2020. In addition, the need for capital upgrades at Capistrano Substation is so extensive that it will need to be rebuilt, according to CAISO.

3.2.2. Compliance with the NERC Reliability Standards and CAISO Planning Standards

SDG&E claims the SOCRE Project is needed to provide reliable service to its SOC customers.[21] According to SDG&E, the transmission system in SOC can only support 410 MW of load without violating the Applicable Rating of a transmission element in the event of a NERC Category B or C contingency, and

[21] Exhibit SDGE-1.3R at 29 beginning at 6.

the SOC peak load already exceeds that MW amount.[22] In particular, SDG&E claims various contingency scenarios[23] and maintenance activities[24] could result in an interruption in service to all or portions of SOC's distribution load as well as violations of the reliability standards[25] adopted by the NERC and/or the CAISO.

The CAISO agrees with SDG&E that the SOCRE project is needed to bring the SOC system into compliance with mandatory NERC Reliability Standards and CAISO Planning Standards. Pursuant to California law and the CAISO's FERC-approved tariff, the CAISO is responsible for planning and operating the electric transmission system in California. Public Utilities Code Section 345 provides, "The Independent System Operator shall ensure efficient use and reliable operation of the transmission grid consistent with achievement of planning and operating reserve criteria no less stringent than those established by the [WECC] and the [NERC]." As a matter of California law, then, it is acceptable for the CAISO to establish planning standards that are more stringent than NERC standards. CAISO accordingly developed its own Planning Standards to "complement [the NERC and WECC reliability standards] where it is in the best interests of the security and reliability of the [CAISO] controlled

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[22] SDG&E defines load serving capacity as the maximum amount of load which can be served following a failure which removes a single or multiple elements from service without violating the Applicable Rating of the remaining elements. [SDG&E Opening Brief at 28]

[23] Exhibit SDGE-1.3R page 47 at 20-21 and from 56 at 3 to 65 at 17.

[24] Exhibit SDGE-1.3R Table 4-3, page 43 at 12, Tables 4-4, 4-5, 4-6 and page 65 at 21.

[25] Exhibit SDGE-1.3R page 47 at 22 and from pages 50 to 55.

grid."[26] Pursuant to this authority, CAISO applied NERC reliability and CAISO planning standards to the SOC area.

NERC standards require corrective action to meet Category C contingency overloads by 2020 and ensure that all projected customer demand is served during a Category C contingency.[27] In its annual Transmission Planning Process (TPP), CAISO conducts technical studies to identify transmission projects that are needed to ensure reliability. The TPP is a consultative process and considers alternatives to the proposed solution projects. In the TPP, the CAISO found a reliability need in the SOC area, related primarily to exceedance of applicable ratings during multiple Category C contingencies.[28] When it approved the 2010-2011 Transmission Plan, the CAISO selected the proposed project (SOCRE) out of several alternatives as the project that would best address reliability concerns. While the CAISO notes that it updated its analysis during the course of this proceeding and acknowledges that its updated analysis shows a reduction in projected load growth over the 10-year planning horizon, the CAISO continues to support the SOCRE on claims that significant reliability concerns exist which justify the project.[29]

The CAISO's reliability concerns in its 2010-2011 transmission plan relate to at least three issues. First, the CAISO argues that various thermal overloads

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[26] Exhibit ORA-227 at 3.

[27] NERC Reliability Standard TPL-003-0b.

[28] Exhibit CAISO-500 at. 9. A Category C Contingency is generally defined by NERC reliability standards as the loss of one system element followed by the loss of a second element.

[29] The CAISO identified a total of 57 reliability events that would result in an uncontrolled interruption of service when a maintenance outage at the Talega Substation is followed by a contingency event. CAISO Opening Brief at 5 citing Exhibit CAISO-502 at 7; and *see* CAISO Opening Brief at 4, citing CAISO-500 at 10.

will develop on distinct facilities over the ten-year planning horizon without the SOCRE Project. Next, CAISO states that excessively complex remedial action schemes, coupled with a single 230kV source to the SOC area, presented another reliability issue.[30] CAISO stated that many unique contingencies cannot be addressed through a Special Protection System (SPS) without violating the NERC long-term planning requirements or CAISO Planning Standards.[31] Third, CAISO found that the timing for the SOCRE project was driven by the need for capital maintenance at the Capistrano Substation, which itself underscored the inadequacy of the existing system to accommodate maintenance or construction-related outages.[32]

3.2.3. The 2016 NERC Standard Revisions

In its January 11, 2016 Opening Brief the CAISO points out that "[a]s of January 1, 2016, NERC TPL-001-4 is the enforceable, governing standard for transmission system planning performance requirements."[33] According to the CAISO, the new NERC standard does not allow non-consequential load loss after a single contingency event in the long-term transmission planning horizon:

> In footnote 12, which replaces the prior footnote B, the NERC standard notes that non-consequential load loss may be used if it is used only within the "Near-Term Transmission Plan Horizon" (i.e.,

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[30] CAISO-500 at 9.

[31] CAISO Opening Brief at 4, Citing CAISO Exhibit 500, at 10; CAISO Opening Brief at 5, Fn. 35; TR Vol. 3 at 336-341.

[32] CAISO-500 at 9.

[33] CAISO Opening Brief at 7.

> years one through five) and is vetted through an "open and transparent stakeholder process."[34]

The CAISO thus argues that FRONTLINES' contention that footnote B allows for load loss after a single event is moot because the prior standard has been entirely replaced by NERC TPL-001-4 and "footnote B" no longer exists. No party presented evidence on the effect of these new standards during hearings.

Both the Commission's decision making process and due process require parties to present the facts and evidence that relate to their understanding of the controlling law (as subsequently set forth in briefs and reply briefs). Here, the CAISO proffers its interpretation of the new NERC regulation, without having afforded the Commission the opportunity to identify or consider potentially relevant factual issues (such as the existence of other now permissible ways of reducing load, and what qualifies as a "near-term planning project" within the meaning of the new NERC regulation) at hearings.[35]

Rather than rely solely on the CAISO's application of this change in law to the facts before us, we note that when TPL-001-4 took effect in January 2016, the former footnote B that potentially provides an exemption for local area

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[34] CAISO Opening Brief at 6.

[35] At 8 of its Opening Brief the CAISO asserts that "[the SOCRE Project is a long-term mitigation plan designed to address reliability concerns over the 10-year planning horizon. Thus, it is not within the Near-Term Transmission Plan Horizon in which non-consequential load loss may be used."

networks was removed. Under the new standard most single contingency events are now subject to the new footnote 12 which provides:

> An objective of the planning process should be to minimize the likelihood and magnitude of non-consequential load loss following planning events. In limited circumstances, non-consequential load loss may be needed throughout the planning horizon to ensure that BES performance requirements are met. However, when Non-Consequential Load Loss is utilized under footnote 12 within the near-term transmission planning horizon to address BES performance requirements, such interruption is limited to circumstances where the non-consequential load loss meets the conditions shown in Attachment 1. In no case can the planned Non-Consequential load loss under footnote 12 exceed 75 MW for US registered entities.

This new language limits load-drop under single contingencies to 75 MW.

The limitation of load loss to a maximum of 75 MW appears to only have a significant impact on project alternatives that risk a significant (>75 MW) loss of load under a single contingency. The projects affected by this limitation are the "No Project" alternative, the Group 2 alternatives which include B.1-B.4 and E, and Group 3 alternatives C1, C2, and D. The 2016 NERC standard does not impact the single contingency feasibility of Alternatives F, G, and J, as no single contingency (Category B, P1, P2) overloads/load shedding was found in the reliability studies of those alternatives.

3.2.4. Discussion

The CAISO has responsibility to ensure the reliability of the State's electrical system pursuant to Pub. Util. Code § 345. The TPP is the CAISO's NERC-authorized transmission planning process, and FERC has approved CAISO's tariff. Although reliability planning and deciding whether a particular transmission project should be built are two vastly different issues,[36] it is inappropriate for us to set aside CAISO's execution of its paramount duty to ensure system reliability. Instead, as envisioned by federal and state law and policy, CAISO's charge must be given effect and complement, not be overruled by, the CPUC's. Pub. Util. Code § 1001 places an ongoing responsibility on this Commission to evaluate the public convenience and necessity of proposed transmission projects. Therefore we independently assess the record developed in this proceeding to determine whether projects or alternatives are appropriate and feasible to satisfy the requirements of reliability, safety, and cost-effectiveness. We do so without diminishing the CAISO's authority and charge.

The parties devoted considerable time and effort to the question of whether the facilities at issue were local or a bulk electrical system (BES) under NERC.[37] However, this distinction is of limited relevance in light of the revisions

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[36] *See* D.01-01-029, 2001 Cal. PUC LEXIS 1000 at *229. This decision echoes language in D.01-05-059, 2001 Cal. PUC LEXIS 413 at *27, which was also adopted in 2001.

[37] The CAISO contends that the SOC 138kV system is a BES (rather than a local network) to which the NERC reliability standards apply. The CAISO also argues that regardless of whether or not the SOC 138kV facilities are considered BES facilities under NERC, the facilities are under CAISO operational control and the CAISO Planning Standards require the CAISO to apply NERC TPL standards to "facilities with voltages less than 100kV or otherwise not covered under the NERC Bulk Electric System definition that have been turned over to the [CA]ISO operational control." The CAISO concludes that this means the SOC 138kV system is not a "local network" and should not be excluded from the BES because it transfers bulk power across the interconnected CAISO grid and provides critical reactive power support to voltage and transfer capability in the SOC and the San Diego import transmission systems.

FRONTLINES disagrees with the CAISO's contentions. Citing the NERC Glossary of Terms FRONTLINES points out that SOC is a "Local Networks" excluded from the definition of a BES. FRONTLINES argues that the definition of a BES provided by NERC makes clear that the SOC 138kV network of distribution substations is a Local Network that is not part of the BES.

Footnote continued on next page

to NERC that took effect in January of 2016, after hearings in this proceeding. Consistent with the new NERC provisions and our limited record on the issue, we will apply the 2016 NERC regulations to those project alternatives that carry a risk of a significant (>75 MW) loss of load under a single contingency. The projects affected by this limitation are the "No Project" alternative, the Group 2 alternatives which include B.1-B.4 and E, and Group 3 alternatives C1, C2, and D. Neither the 2016 NERC standard nor the BES exemption are relevant to Alternatives F, G, and J, as no single contingency (Category B, P1, P2) overloads/load shedding was found in the reliability studies of those alternatives.

We agree with the CAISO that regardless of whether or not the SOC 138kV facilities would be a Local Network under NERC, it is classified as part of the BES because the facilities are under CAISO operational control and the CAISO Planning Standards require the CAISO to apply NERC TPL standards to "facilities with voltages less than 100kV or otherwise not covered under the NERC Bulk Electric System definition that have been turned over to the [CA]ISO operational control."[38]

Both SDG&E and CAISO argue that the current system serving the SOC area is forecast to violate NERC and CAISO standards. CAISO is legally charged

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Specifically, according to FRONTLINES, the inclusionary provisions of the BES definition similarly address elements and devices (such as the CAISO and SDGE cite), the plain and unambiguous language of these inclusionary provisions makes clear that they apply only to the devices specified and do not apply to the elements connected to such devices. FRONTLINES concludes that the 138kV lines and seven distribution substations that comprise SDGE's SOC system are specifically not part of the BES and are therefore not subject to TPL002-02b, TPL-003-0b, and TPL-004-0a.

[38] CAISO Opening Brief at 3.

with operating and authorizing the planning of the electric transmission system in California, and SDG&E as the NERC-designed Transmission Planner must meet NERC and CAISO standards. SDG&E's testimony and power flow analysis identified 18 Category C events that would result in thermal loading in excess of the transmission line's Applicable Rating, and thus require load shedding.[39] SDG&E goes on to say that where, as in the case of SOC, certain lines have no emergency rating or very short-term emergency ratings, load shedding must occur immediately upon the thermal loading of the line exceeding its normal rating, in order to remain within Applicable Ratings. Thus the system in SOC poses real reliability risks to customers and a genuine risk of uncontrolled outages for the entire SOC area.[40] In particular, according to SDG&E, a loss of 230kV or 138kV service at Talega Substation will interrupt all electric service to residents and businesses in SOC and "[a] second source is required to provide equivalent reliability to SOC."[41] SDG&E contends that this risk will only increase in the future given the substantial distribution load growth that SDG&E expects to occur in SOC network.[42] SDG&E also maintains that the entire Orange County 138kV distribution system is at risk of an uncontrolled outage under certain

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39 Different scenarios raise the risk of thermal overloads to as many as 80 by SDG&E or 26 by CAISO, and CAISO identified as many 57 reliability events.

40 Exhibit SDGE-1.3R from page 8 at 9 to page 9 at 12.

41 SDG&E Reply Brief at 16.

42 *See* description of SDGE's distribution load forecast beginning on page 36 at 1 of SDGE Exhibit 1.3R and Table 4-1, which was later amended in supplemental testimony [exhibit SDGE-2.2RC page 55 Table 2-1]. The 2024 load forecast in Table 2-1 is more than 20% higher than the actual 2014 peak load of 415.3 MW [FRONTLINES Exhibit 413] and the actual 2015 peak load of 415 MW [transcript page 205 at 16].

maintenance scenarios[43] and in the event of a Category D[44] contingency loss of the Talega substation.[45]

While no party argues that the events SDG&E identifies are not possible, various parties argue that the project is excessive and/or that the contingency events are highly unlikely.[46] For example, SJC argues that, based on today's best information within an appropriate planning horizon, the SOCRE Project is excessive to meet the identified objective of addressing load growth on the SOC transmission loop and the SOCRE Project far exceeds the objectives of adding a 230kV power source, in addition to the Talega 230kV Substation, for the SDG&E SOC transmission loop.[47]

FRONTLINES offered one alternative to the proposed project, that is, modifications to the Talega substation independent of the addition of a second source at Trabuco. FRONTLINES acknowledges that this alternative does not address the risk to SOC load that is posed by a catastrophic event at Talega, but asserts that it mitigates the risks posed by maintenance events at Talega. FRONTLINES argues that while the SOCRE Project might mitigate outage risks to the entire SOC posed by the maintenance scenarios posited by SDGE, it does

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[43] Exhibit SDGE-1.3R Table 4-2, page 43 at 1.

[44] NERC identifies a Category D event as an “extreme event resulting in two or more (multiple) elements removed or cascading out of service” (*see* page 5 of ORA-212).

[45] Exhibit SDGE-1.3R page 40 at 16.

[46] For the most part, rather than address the issue of demand/reliability related outages as the other parties, the CAISO limits its discussion to NERC compliance issues.

[47] SJC Opening Brief at 6-7.

not and cannot prevent all possible outages as it does not provide a second 230kV source that is located far from the Talega substation.[48]

SDG&E's SOC is facing critical reliability concerns within the ten year planning horizon. SDG&E's risk of incurring potential NERC violations dates back to 2007, and those risks remain unaddressed. Given the projected load forecast, there could be anywhere from 18 to 56 reliability events in the SOC area. Although NERC standards do allow for load shedding to prevent the transmission lines from exceeding Applicable Ratings, we find that the risk of 18 to 56 reliability events are far too many for the SOC area.

Moreover, as CAISO testified,

> The existing system does not provide adequate windows for maintenance or planned construction activities without risking area blackout or non-consequential loss of load under four Category B contingencies. This is a violation of the NERC TPL-002 planning standard that does not allow non-consequential load service interruption under Category B contingencies. In addition, during maintenance or planned construction, 53 Category C contingency events result in area blackout or load shedding in South Orange County, which results in an unacceptable reliability risk. There is no acceptable method of implementing the necessary load shedding for these overlapping Category C contingencies. Shedding load after the first contingency to prepare for the second contingency is not allowed by the CAISO Planning Standards for long-term planning purposes. Shedding load after the second contingency would require an exceedingly complex Special Protection System (SPS) that would not meet the CAISO Planning Standards.[49]

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[48] FRONTLINES Opening Brief at 10.

[49] Exh. 501 at 9.

SDG&E disputes the need to position the second 230kV source as "far" from the Talega Substation as the Trabuco Substation. The two 230kV lines that it proposes to interconnect with the proposed new San Juan Capistrano Substation will run on the opposite side of, and not interconnect with, the Talega Substation from the present 230kV line interconnection into Talega Substation. For a fire to affect both the existing and proposed 230kV lines, a fire would have to engulf the entire Talega Substation. SDG&E acknowledges this risk, but submits that it has never suffered the loss of a transmission steel pole or lattice tower due to any kind of fire. It has, however, experienced the loss of wooden structures, on which the 138kV lines from Talega Substation are affixed. Even if a catastrophic wildfire forces all of SDG&E's 230kV lines out of service, such an outage would be temporary and relatively short (hours).

SJC's testimony supports the notion that diverting one of the 230kV lines from the San Onofre Substation, in SJC's case, to the Rancho Mission Viejo Substation, would mitigate the loss of service if Talega Substation was completely lost.[50] Diverting one of the 230kV lines from the San Onofre Substation to Capistrano would similarly mitigate against a complete loss of service from Talega Substation.

Further, SDG&E has proposed to construct the proposed project to withstand forces greater than earthquake shaking. In the event that an earthquake is powerful enough to damage all three 230kV lines under the proposed project, it would "most likely" damage the Talega Substation as well.

[50] SJC-300.

In such a scenario, bringing Talega back into service would require more time than it would to bring the transmission lines back into service.

ORA and FRONTLINES's proposals do little to convince of their feasibility. Without adequate modeling of these proposals, we are loath to support their conclusions. More importantly, as discussed further below, having established the need for a second 230kV power source to serve SOC, the proposed project serves another function that the alternatives do not: to prevent 230kV loop flows through the 138kV SOC system and to prevent impedances to the transfer capability between areas north and south of SOC.

We find that there is a genuine risk of uncontrolled outages for the entire or portions of SOC load, and that the proposed project will reduce this risk while addressing the core reliability enhancement need, and that alternatives will not.

3.3. Project Alternatives

3.3.1. The Proposed Project

3.3.1.1. Costs

SDG&E estimates that the proposed SOCRE will cost approximately $381 million.[51]

3.3.1.2. Reliability

The reliability of the proposed project is discussed above.

3.3.2. The No Project Alternative

3.3.2.1. Reliability

On claims that the SOCRE Project is largely a costly workaround in order for SDG&E to solve configuration issues at the Talega Substation, ORA asserts

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[51] SDG&E Rebuttal Testimony at 16.

that "SDG&E is able to mitigate Talega Substation configuration issues without any project."[52] ORA notes that in response to its data request for detailed information on any uncontrolled and controlled outages SDG&E experienced within the last five years SDG&E identified only the September 8, 2011 Arizona-Southern California outage as such event, and SDG&E acknowledged that this event has nothing to do with the reliability issues a hand.[53] Also, though it identified only the September 8, 2011 event in response to ORA's data request, in testimony SDG&E asserted that on July 18, 2013 an event occurred that required the Talega Substation 230kV or 138kV buses to be removed from service, and power flow to SOC to be interrupted causing SDG&E's SOC customers to lose electric service.[54] However, ORA's cross-examination on this point confirmed that the cause of the event, "miscommunication," had nothing to do with the justifications for the SOCRE Project.[55]

In marked contrast to ORA, the CAISO argues first that if the Commission were to approve the No Project Alternative it would need to undertake additional improvements to meet the identified reliability needs, which include expanding the 230/138kV Talega Substation by sectioning the 230/138kV buses, adding at least two more bay positions at both 230kV and 138kV voltage sides, and upgrading the two 230/138kV transformers (Banks #60 and #62).[56] The

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[52] ORA Opening Brief at 22.

[53] ORA Opening Brief at 4, citing ORA Exhibit 205 (SDG&E 05/31/13 Response, to DRA Data Request 8, Dated May 16, 2013), at 1.

[54] SDG&E Exhibit 1.3, at 10:16 – 11:2.

[55] Tr. Vol. 1 at 89, 90, 91, 92; Tr. Vol. 7 at 926, Tr. Vol. 2 254 and 288.

[56] *See* CAISO Opening Brief at 10 citing Exhibit CAISO-502, at 14-15 wherein the CAISO makes the same claim without explaining its basis.

CAISO goes on to argue that SDG&E cannot expand the Talega Substation without shutting down its service (depending on the status of the construction and the nature of the forced outage) because it is the sole transmission source to the SOC system.[57]

3.3.2.2. Conclusion

It appears that doing maintenance on Talega would put SDG&E at risk of a P1 NERC violation if the operating transformer were to fail while the other transformer is being replaced. In addition, we note that the January 2016 revision of the NERC standards and the new language in standard TPL-001-4 limiting load-drop under single contingencies to 75 MW suggests that this project alternative, which carries the risk of a significant (>75 MW) loss of load under a single contingency, does not appear to satisfy the new NERC reliability standard.

3.3.3. Group 2 Project Alternatives (B.1, B.2, B.3, and B.4)

3.3.3.1. Cost Effectiveness

The final EIR finds Alternatives B.1, B.2, B.3 and B.4 would be cost-effective alternatives that meet Section 1002.3 requirements because they include methods for meeting project objectives that would not require new transmission facilities that would operate at voltages equal to or greater than 200kv and would incorporate energy conservation and efficiency improvement measures. Alternatives B.1, B.2, B.3 and B.4 would reconductor existing 138kV transmission lines or, to the extent feasible, make use of transmission lines that are currently not in use. Alternatives B.1, B.2, B.3, and B.4 include cost-effective

[57] CAISO Opening Brief at 4 citing SDG&E-3.2R, at 19.

demand-side alternatives, e.g., targeted energy efficiency, demand reduction measures (demand response and load management), and local generation,[58] that may be implemented within the applicant's 10-year transmission planning horizon.

3.3.3.2. Reliability

The CAISO acknowledges that alternatives B.1, B.2, B.3, and B.4, would address some of the reliability concerns for the Category C events, but asserts that these alternatives are not adequate to meet Category B and Category C performance requirements because all or a significant amount of customer load in the area would be interrupted with any one of the 4 Category B or the 53 Category C events listed in the CAISO's testimony. Thus, according to the CAISO, if the Commission approves one of these alternatives, additional improvements such as rebuilding and extending the existing non-standard substation layout and 230/138kV bus configurations at the Talega Substation will be necessary to meet NERC or CAISO transmission planning standards.

In addition, the January 2016 revision of the NERC standards and the new language in standard TPL-001-4 that limits load-drop under single contingencies to 75 MW suggests that these project alternatives which carries the risk of a significant (>75 MW) loss of load under a single contingency will not satisfy the NERC reliability standards.

3.3.3.3. Conclusion

In light of the above, these alternatives should not be adopted at this time.

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[58] Local generation refers to small-scale, customer-level distributed generation resources within an electrical service area, e.g., rooftop solar photovoltaic generation on single-family homes.

3.3.4. Group 3 Alternatives (C.1, C.2, and D)

California Public Utilities Code Section 1002.3 requires that the CPUC consider cost-effective alternatives to transmission facilities when evaluating project applications for a Certificate of Public Convenience and Necessity. Our review of this alternative reveals that the January 2016 revision of the NERC standards and the new language in standard TPL-001-4 that limits load-drop under single contingencies to 75 MW leads to the conclusion that these project alternatives, which carry the risk of a significant (>75 MW) loss of load under a single contingency, will not satisfy the NERC reliability standards.

3.3.5. Alternative E

Both SDG&E and the CAISO oppose this option on claims that is fails to provide for the required reliability. As no party specifically supports this alternative it should not be adopted at this time.

3.3.6. Alternative F

The CAISO opposes both Alternative F and the slightly modified variation to Alternative F proposed by SJC that would reconfigure the Talega-Rancho Mission Viejo 138kV circuit to bypass Talega Substation and directly tie with the Talega-Pico 138kV line.

According to the CAISO, to meet NERC and CAISO planning standards, in addition to the Alternative F improvements, Alternative F would need to be modified to upgrade the 138kV line between Talega and Laguna Niguel.[59] Similarly, the CAISO provides evidence demonstrating that the modification to Alternative F proposed by SJC would result in five overloads based on Category

[59] CAISO Opening Brief at 14, citing Exhibit CAISO-502 at 19 and Appendix A at 27.

C contingencies, and one Category D contingency resulting in cascading outages at Rancho Mission Viejo Substation.[60] While loss of load is allowed after the second contingency following system readjustment, and a Category D contingency (catastrophic loss of substation) does not require mitigation, the CAISO also performed a long-term sensitivity analysis with a very moderate load growth forecast and determined that the Category C overloads would increase over time. Based on this sensitivity case, SJC's modified Alternative F would result in nine thermal overload concerns on five separate elements caused by six different contingency combinations.[61]

In light of the above, this alternative should not be adopted at this time.

3.3.7. Alternative G

The CAISO faults this alternative because there are only two 138kV lines out of the existing San Mateo Substation, and it is only one bus away from the Talega Substation, which makes the two transmission sources not fully independent.[62] In addition, according to the CAISO, if the Commission approves Alternative G the 138kV lines between Talega and Laguna Niguel and between Talega and Pico would need to be upgraded to meet NERC or CAISO transmission planning standards.

In light of the above, this alternative should not be adopted at this time.

3.3.8. Alternative J – the Trabuco Alternative

The Alternative J set forth in the RDEIR envisions the construction of a new 230kV substation with two high capacity (392 megavolt-amperes (MVA))

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[60] CAISO Opening Brief at 19, citing Exhibit CAISO-504 at 4-6.

[61] CAISO Opening Brief at 19, citing Exhibit CAISO-504 at 7-11.

[62] CAISO Opening Brief at 14, citing Exhibit CAISO-502 at 20.

transformers in a breaker and a half (BAAH) configuration on the 2.3 acre parcel north of the existing Trabuco distribution substation. That 2.3 acre parcel is presently owned and used by AT&T, and Alternative J would have SDG&E acquire or condemn this property. This so-called Trabuco Alternative would have other modifications at Talega, such as removing existing transformers 60 and 62 and placing the two high capacity (392 MVA) transformers in a BAAH configuration, and rearranging the transformer connections at Talega so that they terminate in different bays on both the 230kV side and the 138kV side. Thus, the new 230kV Trabuco Substation would interconnect with Southern California Edison Company's (SCE) Santiago and San Onofre Substations.

3.3.8.1. Reliability

Supporters of Alternative J advance several arguments in favor of this alternative's reliability function. FRONTLINES submits that the Trabuco alternative offers the benefit of providing a power source that is "far" from the Talega Substation and thus mitigates the risk to the entire SOC load (*see* discussion above). FRONTLINES also asserts that the Trabuco alternative is superior to the SOCRE Project because it:[63]

- is far less costly, will not cause load shedding even if Trabuco is removed from service while Talega remains operational.
- can be supplied with voltage support in the event Talega is removed from service via the Synchronous condensers recently installed at Santiago.
- is fully redundant to Talega because South Orange County load will be fully served by Trabuco in the event Talega is removed

[63] The Trabuco Alternative is identified as Alternative J in the RDEIR and discussed in detail in section 4.2 of FRONTLINES Exh. 401-C.

> from service, and South Orange County load will be fully served by Talega in the event Trabuco is removed from service.

ORA and the SJC also offer general support for the Trabuco Alternatives. Both SDG&E and CAISO, however, contest the feasibility of Alternative J and raise electric reliability problems that can arise affecting the larger transmission grid, outside of the SOC area. The CAISO's greatest concerns with the Trabuco Alternative are the risk of loop flows and reduction in transfer capability between San Diego to the Los Angeles Basin.

SDG&E argues that, even if it were feasible to construct Alternative J on the proposed site, the Trabuco Alternative would cause loop flows on the SOC system and on SCE's system. SDG&E asserts that its power flow analyses show that the SCE interconnection called for under this alternative can cause loop flow.[64] According to SDG&E, it and the CAISO testified to, and Southern California Edison (SCE) expressed concerns about, likely adverse impacts from paralleling SDG&E's 138 kV and SCE 220 kV systems.[65]

CAISO, the FERC-approved operator of the transmission system, agrees. CAISO performed an analysis of Alternative J based on the RDEIR's configuration and found overloads on the single proposed 230/138 kV transformer at Trabuco Substation, and even found overloads if there were two 230/138 kV transformers installed.

ORA, FRONTLINES, and SJC rebut the loop flow issue identified by SDG&E. According to ORA, while loop flow can be an issue under Alternative J

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[64] SDG&E Reply Brief at 36-37 citing Exh. SDG&E-5 (2nd Rebuttal Testimony at 24-29).

[65] Exh. SDG&E 5 (2nd Rebuttal Testimony at 2-4, 21-29); Exh. CASIO 505 (Sparks Supp. Rebuttal Testimony at 4-7). Each point is discussed in detail in Exh. SDG&E 4 (Second Supp. Testimony at 23-75), but cannot be here due to the ALJ's 40 page brief limit.

such loop flow issues only become a concern in the unlikely event that there is "no load at all in the SOC area" and these loop flow issues can be mitigated by installing Special Protection Systems.[66] ORA concludes, "[l]oop flow and path rating issues of the Trabuco Alternative are of minimal concern."[67]

For its part, FRONTLINES points out that the CAISO's witness confirmed that opening the transformer connection at Trabuco would indeed reduce the flow out of Trabuco to zero, and eliminate any overload created by loop flow through the transformer.[68] FRONTLINES notes that SDGE does not dispute its testimony that loop flow through South Orange County can be eliminated by disconnecting South Orange County from the Santiago- Trabuco line when extreme circumstances occur.[69]

Some parties have urged that the installation of a Special Protection System (SPS) would mitigate the overloads. CAISO, however, similarly analyzed this and determined that an SPS would be infeasible as it would "trigger an exceedingly complex SPS that would not meet CAISO Planning Standards."[70]

One of CAISO's main concerns with Alternative J is that it would lead to loop flows if SOC's 138 kV system is parallel with the 230 kV system. Because

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66 ORA Exh. 201, at 7, lns 6-7.

67 ORA 201, at 6, lns 12-13. SDG&E claims to have responded to these and other contentions ORA makes in its Opening Brief in its Second Rebuttal Testimony (at 13-29) which was filed before hearings or briefs.

68 Tr. at 343, ln. 18, and 343 ln. 10.

69 FRONTLINES's rebuttal testimony clearly identifies "opening the Trabuco-Santiago circuit" as a remedy to eliminate flow out of South Orange County to SCE (aka "loop" flow) [Exhibit 401 page 6 at 20]. This FRONTLINES testimony was never refuted in the record by either SD&GE or CAISO via exhibits or during cross-examination of the FRONTLINES witness [see transcript at 1324-1371].

70 CAISO Opening Brief at 16; TR 336-41.

electricity travelling on the transmission system follows the path of least resistance, power from the 230 kV system would flow through the 138 kV SOC system if, say, the 230 kV SONGS-Santiago line is lost. Because the SOC system is not thermally rated to accommodate power flows from a 230 kV path, there is a risk of overload at an expanded Trabuco Substation. Even if there were two transformers installed at Trabuco, CAISO continues, the two transformers would not prevent overload, as intended, but would instead worsen the risk of overload on the SOC system because the two transformers would actually reduce impedance and cause more power, not less, to travel over the SOC 138 kV system. CAISO also submits that an SPS can only address an initial overloading.[71]

SDG&E and CAISO have argued that Alternative J will impact SCE's transfer capability on the four 230 kV lines connecting SCE and SDG&E. These four lines (known as Path 43) are significantly larger, with nearly two times the MVA power on each line, than the 230 kV lines in the proposed project.[72] Alternative J could reduce or restrict SCE's ability to import power through Path 43 by as much as 1000 MW.[73] ORA, FRONTLINES, and SJC dispute that this concern has been proven and argue that any concerns about overloading can be addressed, as even acknowledged by CAISO, by a second transformer at Trabuco.

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[71] Exh. 505.

[72] Exh. SDGE-2.2 at 106. *See* also Exh. CAISO-505 at 3-4.

[73] TR. Vol. 3 at 338.

3.3.8.2. Costs

SDG&E estimates that Alternative J will cost $404- $492 million.[74] At first blush the CAISO appears to lend credibility to SDG&E's claim as it states, "[t]aking into account the costs of reconfiguring the 138kV bus, the costs of the Trabuco alternative would be greater than SOCRE Project."[75] CAISO also identified at least seven additional reliability upgrades in the SOC system to mitigate the negative system operation impacts it says will be caused by Alternative J.[76] CAISO also states that Alternative J will exacerbate the need to upgrade the SCE-owned Ellis-Santiago and Ellis-Johanna 220kV lines or increase the need for 100 MW of preferred resources in the San Diego area.[77] CAISO identified numerous other system improvements that would likely be required if Alternative J were pursued.[78] These additional upgrades and mitigations are not contemplated by the RDEIR and therefore push the cost of Alternative J upwards from anticipated amounts.

FRONTLINES calculates the total cost for this alternative to be $91 million, less than one-quarter of SDG&E's estimate.[79] According to ORA, this substantial difference results from SDG&E's greatly inflating the cost estimate for Alternative J. At hearings, ORA established that in addition to a 10% error range,

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74 SDG&E Rebuttal Testimony at 16.

75 CAISO Reply Brief at 9.

76 Exh. 505 at 5-7.

77 *Id.*

78 CAISO Opening Brief at 16. Some of the system improvements would be increasing the ampacity ratings of the SCE owned Ellis-Johanna 220kV transmission circuit by replacing terminal equipment at Ellis/Johanna substations and increasing clearance on transmission spans along the circuit.

79 FRONTLINES Opening Brief at 50.

SDG&E factored in a 30% contingency in estimating most of the Alternative J costs.[80] According to ORA the Trabuco Alternative would cost $27.6 million, significantly less than the SOCRE project.[81] Consistent with this claim ORA notes that, compared to the SOCRE Project which would construct 7.5 miles of double circuit 230kV transmission lines and would upgrade the 138kV Capistrano Substation to 230kV, Alternative J would construct only approximately 2,000 feet of 230kV transmission lines and upgrade the 138kV Trabuco Substation to 230kV.[82]

A significant element of the costs of Alternative J is the potential addition of a second 230/138 transformer at Trabuco Substation. As described in FRONTLINES' testimony, this addition to Alternative J involves the construction of a new 230kV substation which includes two high capacity (392) MVA transformers in a BAAH configuration on the 2.3 acre parcel north of the existing Trabuco distribution substation.[83]

In opposition to this addition to Alternative J, SDG&E argues that the Alternative J addition will require the acquisition of additional land (no party disputes SDG&E's claim that the existing Trabuco substation space is

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80 ORA Opening Brief at 29.

81 ORA's projected cost uses only one 392 transformer, and does not account for any rebuilding at Capistrano, or reconfiguration at Talega. *See* Exh. ORA-200-R at 21.

82 Exhibit ORA-200 at 12.

83 This is identified in the RDEIR as part of Alternative J – the Trabuco Alternative, and discussed in FRONTLINES Exhibit 401C Section 4.2 beginning on page 13 at 15. This addition also includes modifications at Talega that remove existing transformers 60 and 62 (which are old devices near the end of their useful lives) and place the two high capacity (392 MVA) transformers in a BAAH configuration. In addition, the transformer connections at Talega would be rearranged so that they terminate in different bays on both the 230kV side and the 138kV side.

insufficient), additional transmission planning studies to determine the full impacts on the interconnected electric grid, additional CAISO and perhaps CPUC approvals, upgrades to SDG&E's 138kV system, and possibly other "Reliability Upgrades."[84] While SDG&E argues that the costs associated with these requirements are unknown, it estimates that these costs will be significant.[85]

3.3.8.3. Alternative J Conclusion

There are enough serious concerns about Alternative J's potential impact to the power flows on both SCE's and SDG&E's 230kV transmission systems, as well as the potential downstream impacts on SDG&E's 138kV SOC system, to merit skepticism for the technological feasibility of this alternative. The additional fact that Alternative J requires an SPS that the CAISO has deemed to be so complex as to violate its Transmission Planning Standards suggests that Alternative J cannot reliably mitigate reliability concerns in SOC.

4. Environmentally Superior Alternative and Feasibility

CEQA provides that public agencies must not approve projects if there are "feasible alternatives or mitigation measures" that can substantially lessen or avoid those effects.[86] A project alternative or mitigation measure is "feasible" under CEQA if it is "capable of being accomplished in a successful manner within a reasonable period of time, taking into account economic,

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[84] SDG&E Reply Brief at 4-5, citing Exh. SDG&E 4 (Second Supp. Testimony at 28-29, 41-43, and 72-73); and Exh. SDG&E 2.2 (Supp. Test. at 113-15), and Second Rebuttal Testimony at 17-22, 24-29 (Attachment 62).

[85] *Ibid.*

[86] Pub. Resources Code Section 21002.

environmental, social, and technological factors."[87] CEQA goes on to provide that, where specific economic, social, or other conditions make infeasible such project alternatives or such mitigation measures, a project may be approved "in spite of one or more significant effects thereof."[88]

The Final Environmental Impact Report (FEIR) considered no less than twelve alternatives to the proposed project, inclusive of the No Project Alternative. The FEIR identified Alternative J as the Environmentally Superior Alternative for the purposes of CEQA.[89]

As discussed above, only the proposed project and Alternative J can meet the project objectives. ORA, FRONTLINES, and SJC believe that the Environmentally Superior Alternative - Alternative J – is feasible, while SDG&E disagrees.

Under Alternative J, SDG&E's existing 138/12kV Trabuco Substation would be expanded to a 230/138/12kV substation using an existing adjacent two acre lot presently owned and used by AT&T. This expanded substation would thus be the second 230kV source of power to serve SOC by looping SCE's SONGS-Santiago 230kV transmission system into the Trabuco Substation. Alternative J would require the removal of existing infrastructure on the AT&T parking and maintenance lot and installation of new equipment (a 230kV double circuit transmission line, a 230kV bus, two 230kV circuit breakers, two 230/138kV air insulated transformers, a 138kV circuit breaker, and a new 80- x 40-foot control building. Alternative J

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87 Pub. Resources Code Section 21061.1; CEQA Guidelines Section 15364.

88 Pub. Resources Code Section 21002.

89 CEQA Guidelines Section 15126.6.

would also require the installation of a new overhead or underground transmission line segment to interconnect with SCE's transmission system. Under Alternative J, the Capistrano Substation would not be expanded, but it would still require the replacement of outdated equipment.

SDG&E submits that it is not feasible to construct or operate a safe and reliable 230/138/12kV Trabuco Substation on the space provided for in the RDEIR. The RDEIR's conceptualization does not, according to SDG&E, contain all necessary equipment, does not meet industry standards, and requires a non-standard design that is inferior in terms of reliability to the proposed project. As SDG&E notes, no parties testified that Alternative J's "design comport[s] with Commission rules and regulations and other applicable standards governing safe and reliable operations." To the contrary, SDG&E, CAISO, ORA, and SJC raise the question of whether the proposed design for Alternative J is adequate for reliability purposes. Some parties have argued that Alternative J should be modified to include a 230kV BAAF configuration, and SJC suggests that two 230/138kV transformers – not one – is required. SDG&E also argues that a properly designed and reliable 230/138/12kV substation cannot physically be accommodated on the space allowed by ORA's or SJC's modifications to Alternative J. Based on the record evidence, we cannot comfortably approve Alternative J based on the proposed Trabuco Substation design flaws.

Moreover, the "feasibility" of a project or alternative under CEQA depends on whether it can be successfully accomplished within a reasonable time. Alternative J cannot. There are serious questions as to the likelihood of success of Alternative J to address thermal rating issues on Path 43.[90] And as CAISO made plain in its 2010-2011 TPP, CAISO found that the timing for the SOCRE project was driven by the need for capital maintenance at the Capistrano Substation, which itself underscored the inadequacy of the existing system to accommodate maintenance or construction-related outages. SDG&E has argued that Alternative J could delay addressing reliability concerns for years while the impacts of an interconnection to SCE's transmission system are studied.[91]

We have reviewed and considered the information contained in the final EIR, as well as parties' challenges to the adequacy of the final EIR. We find that substantial evidence demonstrates that the environmentally preferred alternative, Alternative J, is infeasible from a technological and temporal perspective.

5. Overriding Considerations for the Proposed Project's Environmental Impacts

Where a project or alternative does result in significant and unavoidable environmental impacts, the Commission may approve such project or alternative upon a finding that the "specific economic, legal, social, technological, or other benefits … of a proposed project outweigh the unavoidable adverse environmental effects."[92]

The FEIR determines that Alternative J would have "fewer impacts on air quality than the proposed project; however, impacts on air would remain

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90 Exh. SDGE-4 at 41-42.

91 Exh. SDGE-2.2 at 100-105.

92 CEQA Guidelines Section 15093.

significant."[93] The impacts arise during construction, however, are will be short-lived.

The FEIR further provides that Alternative J would reduce the impacts to cultural resources over the proposed project. However, we disagree with the FEIR's conclusion that the proposed project will have a significant impact to cultural resources despite the implementation of mitigation measures. The FEIR identifies one historical site impacted by the proposed project – the former utility structure (historic site 30-179873) at the existing Capistrano Substation. In April 2015, the State Historic Resources Commission recommended this structure as eligible for the National Register of Historic Places (NRHP), and forwarded its recommendation to the Keeper of the NRHP. In September 2015, the Keeper of the NRHP declined to find this structure as NRHP eligible because of an inadequate nomination. Although the Keeper of the NRHP's decision was not on the merits and is not definitive, we can only say at most that the impacts to the former utility structure – the single cultural resource for which the FEIR found a significant impact – might be significant depending on whether the structure is again submitted for eligibility. At this point, we are not even aware of whether another recommendation for the resource's eligibility has been resubmitted. We cannot conclude that Impact CUL-1 caused by the proposed project is significant and we therefore modify the FEIR to conclude that Impact CUL-1 is not significant.

[93] FEIR, Appendix 1 at 5-34.

What remains, then, are the proposed project's impacts to air quality that cannot be mitigated to less than significant. We do not discount the significant construction-related air quality impacts that the FEIR identifies cannot be mitigated. Exceedances of significance thresholds are particularly concerning in the South Coast Air Quality Management District. At the same time, the risk of violating NERC reliability standards and of both controlled and uncontrolled outages throughout SOC remain and will only increase over time as load continues to grow in the area. As SDG&E's testimony explains, without an adequate reliability enhancement project, a catastrophic loss at the Talega Substation would lead to a widespread long-term outage throughout SOC would impact nearly every facet of life, from the customers directly served by the 120,000 SDG&E meters in the area, to public safety services, to the supply of fresh water and the treatment of wastewater.

Moreover, the estimated economic impact from an extended outage could reach into the hundreds of millions of dollars for a less-than-24 hour outage to billions of dollars for more extended outages. Although we acknowledge that such an extended outage to the entire SOC area is low, the increasing risk of such an outage, together with the magnitude of the impact of such an outage, make clear that the SOC area is in need of a reliability enhancement project in the ten year planning horizon.

These safety, reliability, and economic benefits present overriding considerations that merit approval of the proposed project, notwithstanding the temporary significant, unmitigable effects on air quality during project construction.

We find that one of the final EIR's conclusions – that the proposed project will have a significant impact to cultural resources (CUL-1) – is premature and instead conclude that the proposed project does not result in impacts to Cultural Resources that cannot otherwise be mitigated to less than significant. Although the proposed project does have substantial and unavoidable environmental impacts to air quality, we approve the project as proposed and include a statement of overriding considerations. We also find and certify that the final EIR was completed in compliance with CEQA, that we have reviewed and considered the information contained in it, and, with the modification to the conclusion for Cultural Resources, that it reflects our independent judgment.

6. Cost Cap

We will adopt a project cost cap based on the record developed in this case. We recognize that detailed engineering estimates have not been completed for the SOCRE project, so there is some uncertainty associated with the firmness of the cost cap we adopt today. However, we believe that the cost cap contains sufficient contingency factors in the estimating procedure to make the estimates of a sufficient level of reliability that we can adopt a cost cap. We have relied on SDG&E's construction cost estimates, we have relied on SDG&E's land cost estimates, and we have included significant contingency factors for each of these project cost areas. We have no reason to believe that SDG&E cannot complete its project within the cost cap we adopt today.

If, upon completion of the final, detailed engineering design-based construction estimates for the project selected, SDG&E concludes that the costs will be materially (*i.e.,* one percent or more) lower than the cost cap we adopt, SDG&E shall submit with the estimate an explanation of why we should not revise the cost cap downward to reflect the new estimate. If the final estimate exceeds the cost cap we have adopted, then SDG&E is free to exercise its rights to seek an increase in the cost cap pursuant to Pub. Util. Code § 1005.5(b). However, the cost cap will not automatically adjust upward even if the final, detailed costs exceed the cost cap.

We authorize a total project cost cap of $318,000,000 for the SOCRE project.

7. Consideration of Section 1002 Requirements

Pub. Util. Code § 1002 requires the Commission to consider the following factors in determining whether to grant a CPCN: (1) community values; (2) recreational and park areas; (3) historical and aesthetic values, and (4) influence on the environment.

We give considerable weight to the views of the local community when assessing whether a project is compatible with community values. The Project will have a favorable impact on the SOC community and increase electric reliability. As conditioned by this decision, the Project is consistent with community values.

The Project is consistent with recreational and park uses. The FEIR determined that construction and operation of the Project will result in less than significant impact on recreation resources with the implementation of Applicant's Proposed Measure APM-PS-2, which would return recreational facilities to pre-construction conditions.[94]

The Project is consistent with the historical and aesthetic values of the area. Expanding the San Juan Capistrano Substation would continue the present use of the property, albeit at a larger size in a residential community near the center of the City of San Juan Capistrano. We are satisfied, however,

[94] FEIR at Exhibit 1, Vol. 2 at 4.14-5.

with the final EIR's mitigation measures, together with the one change to the Cultural Impacts analysis, that would reduce impacts in these regards to less than significant.

The final element under § 1002 requires that the Commission consider the proposed project's "influence on the environment" prior to granting a CPCN. Influence on the environment under § 1002 is primarily considered in the EIR process, so that the parties would not duplicate their efforts on this Public Utilities Code requirement that overlaps with CEQA requirements.

8. Comments on Alternate Proposed Decision

The Proposed Decision in this matter was mailed to the parties in accordance with Section 311 of the Public Utilities Code and comments were allowed under Rule 14.3 of the Commission's Rules of Practice and Procedure. Comments were filed on ____________, and Reply Comments were filed on __________, by the CAISO, FRONTLINES, SDG&E, SJC, and ORA.

9. Assignment of Proceeding

Michael Picker is the assigned Commissioner and Darwin E. Farrar is the assigned Administrative Law Judge in this proceeding.

Findings of Fact

1. The SDG&E SOC service area is located at the northern end of SDG&E's service territory and has more than 129,000 electric customers.

2. The SOC service area represents approximately 10% of SDG&E's total customer load.

3. In its 2010 - 2011 transmission planning process the CAISO identified a reliability need in the SOC area.

4. In accordance with the applicable CAISO tariff, SDG&E submitted a potential solution to the CAISO's reliability concern during the 2010 Request Window.

5. On May 18, 2012 SDG&E filed its Application for a CPCN for the SOCRE Project.

6. As proposed, the SOCRE Project has an estimated cost of approximately $381 million.

7. Protests to SDG&E's Application were filed on June 20, 21, and 22, 2015 by DRA, SJC, and FRONTLINES, respectively.

8. A PHC was held on November 19, 2014.

9. A Scoping Memo issued in this proceeding on February 23, 2015.

10. The scheduled hearings began on June 15, 2015.

11. The CPUC is the Lead Agency as defined by CEQA.

12. The CPUC prepared a DEIR for the SOCRE Project and circulated the DEIR for public comment for a 45-day period (beginning February 23, 2015, and ending April 10, 2015) as required by CEQA.

13. In July of 2014, the Commission's Energy Division staff issued its California Environmental Quality Act Alternatives Screening Report.

14. The environmentally superior alternative is the No Project Alternative.

15. The EIR identifies Alternative J as the environmentally superior alternative other than the No Project Alternative.

16. Portions of the DEIR were revised with new information, and the revised chapters and sections were recirculated in a manner consistent with the provisions of Section 15088.5 of the CEQA Guidelines.

17. The EIR examines the environmental impacts of the proposed project and a number of alternatives, including the No Project Alternative; it identifies their

significant and unavoidable environmental impacts and the mitigation measures that will avoid or substantially lessen them, where possible, and identifies the environmentally superior alternative as required by CEQA.

18. The alternatives screening process identified and reviewed the following 11 potential alternatives to the SOCRE Project:

a. Alternative A – No Project.
b. Alternative B1 – Reconductor Laguna Niguel–Talega 138kV Line.
c. Alternative B2 – Use of Existing Transmission Lines (Additional Talega–Capistrano 138kV Line).
d. Alternative B3 – Phased Construction of Alternatives B1 and B2.
e. Alternative B4 – Rebuild South Orange County 138kV System.
f. Alternative C1 – SCE 230kV Loop-in to Capistrano Substation.
g. Alternative C2 – SCE 230kV Loop-in to Capistrano Substation Routing.
h. Alternative D – SCE 230kV Loop In to Reduced-Footprint Substation at Landfill.
i. Alternative E – New 230kV Talega–Capistrano Line Operated at 138kV.
j. Alternative F – 230kV Rancho Mission Viejo Substation.
k. Alternative G – New 138kV San Luis Rey–San Mateo Line and San Luis Rey Substation Expansion.

19. On April 25, 2016 the final EIR issued.

20. All the Alternatives identified in the EIR would meet project Objectives 1 and 2 as defined in Section 1.3.1 of the EIR, and ensure each of the potential Category C (N-1-1) contingencies identified by the applicant and CAISO would be avoided through the 10-year planning horizon.

21. EIR Alternatives A, B.1, B.2, B.3, and B.4 would not redistribute the power flow of the applicant's SOC 138kV system as required by EIR Objective 3.

22. The EIR identifies the significant adverse impacts of the proposed project, as well as a reasonable range of alternatives to a proposed project that feasibly attain most of the basic project objectives but avoids or substantially lessens any of the significant effects of the project.

23. SDG&E originally claimed that its 2014 forecast showed SOC reaching 490 MW beyond 2023.

24. Recorded peak load on the SOC 138kV system has dropped each year since 2007.

25. The existing system is capable of handling 400 to 499 MW of power during normal conditions and 500 MW or more during temporary peak load conditions.

26. The rated capacity of the 138kV system is approximately 580 MW.

27. The applicant's current power flow data do not indicate that system loads may exceed 500 MW until after 2024.

28. The applicant does not forecast that any of the 138/12kV substations within its SOC 138kV system would exceed their operating capacity through 2024.

29. The CAISO approved the SOCRE Project in 2011 assuming a 2020 Peak load of 525 MW

30. The 2015 Peak load in SOC was only 415 MW.

31. The CAISO updated its Net Peak Load forecast for SOC since approving SOCRE in 2011.

32. The CAISO now predicts a 446 MW peak load in 2024 and a 453 Peak Load in 2025.

33. SDG&E's January 2015 assumed a 2023 peak SOC load of 481 MW which is higher than the CAISO's most recent forecast.

34. SDG&E's January 2015 forecast was revised upward to project a 3% higher 2023 peak SOC load of 494 MW, while the CAISO forecast was revised downward.

35. The need for upgrades to the SOC 138kV system are driven both by forecast load growth and the applicability of NERC TPL-001-4.

36. There is uncertainty regarding projected load growth in the SOC 138kV system

37. The SOC 138kV facilities are under CAISO operational control.

38. CAISO has demonstrated that the NERC TPL-001-4 reliability standard must be applied to the SOC 138kV system.

39. The NERC TPL-001-4 limitation of load loss to a maximum of 75 MW only has a significant impact on project alternatives that risk a significant (>75 MW) loss of load under a single contingency.

40. The No Project alternative to the SOC 138kV would result in a violation of NERC TPL-001-4 across the various load forecasts offered into evidence.

41. The SOCRE Project would allow the SOC 13kV system to comply with NERC TPL-001-4.

42. The No Project Alternative does not satisfy the new NERC reliability standards.

43. The SOCRE Project will mitigate outage risks to the entire SOC posed by the maintenance scenarios posited by SDGE.

44. The No Project Alternative carries the risk of a significant (>75 MW) loss of load under a single contingency, thus necessitating mitigation to meet the NERC TPL 0001-4 standard.

45. Alternatives B.1, B.2, B.3 and B.4 carry the risk of a significant (>75 MW) loss of load under a single contingency.

46. Alternatives C.1, C.2, and D carry the risk of a significant (>75 MW) loss of load under a single contingency.

47. No party specifically supports option E.

48. To meet NERC and CAISO planning standards, in addition to the Alternative F improvements, Alternative F would need to be modified to upgrade the 138kV line between Talega and Laguna Niguel.

49. To meet NERC and CAISO transmission planning standards, Alternative G would need to have the 138kV lines between Talega and Laguna Niguel and between Talega and Pico upgraded.

50. SDG&E's power flow analyses show that Alternative J can cause the risk of loop flow.

51. CAISO found that Alternative J can cause overloads on the proposed transformer at Trabuco Substation.

52. CAISO found that the installation of a Special Protection System proposed to mitigate loop flow for the Alternative J project would not meet the CAISO Transmission Planning Standard.

53. Alternative J does not meet the CAISO Transmission Planning Standard

54. A project that does not meet the CAISO Transmission Planning Standard cannot be relied upon by CAISO to meet NERC standards.

55. Alternatives A through J all either do not meet the NERC TPL-001-4 or do not meet CAISO Transmission Planning Standards.

56. Alternatives A through J cannot be relied upon to bring the South Organ County 138kV system into compliance with NERC TPL 001-4 standard.

57. The No Project Alternative represents the status quo and, consequently, would result in no environmental impacts over existing baseline conditions.

58. The final EIR identifies the environmentally superior alternative other than the No Project Alternative as Alternative J.

59. The final EIR recognizes that overriding considerations, which in this case are the need to bring the SOC 138kV into compliance with NERC TPL 001-4, justify pursuing an alternative to the No Project option.

60. The Applicant's SOCRE project is the only option proposed that would meet both NERC and CAISO standards.

61. The Applicant's estimated project cost of $318 million is reasonable

62. Setting a project cost based on the Applicant's estimated project costs is reasonable.

Conclusions of Law

1. Issues that are within the scope of this proceeding include:

   a. Is there is a public convenience and necessity for the benefits that the SOCRE Project might offer, but not whether this particular project is needed to achieve those benefits.

   b. Is there a genuine risk of uncontrolled outages for the entire South Orange County load, and if so, is the SOCRE Project necessary to reduce this risk in an appreciable way or are there alternative ways to reduce this risk?

   c. Is there a genuine risk of a controlled interruption of a portion of the South Orange County load, and if so, is the SOCRE Project necessary to reduce this risk in an appreciable way or are there alternative ways to reduce this risk?

   d. Is the SOCRE Project necessary to comply with mandatory North America Electric Reliability Corporation (NERC), Western Electricity Coordinating Council (WECC), and California Independent System Operator (CAISO) transmission and operations standards or are there other ways to comply with the standards above?

   e. What is the projected load growth over the next 10 years in the SOCRE Project area?

f. Is the SOCRE Project necessary to accommodate the projected load growth in the project area over the next ten years, or are there alternative ways to accommodate this load growth?

2. The maximum cost of the SOCRE Project, if approved, is an issue that is within the scope of this proceeding.

3. The EIR was completed in compliance with CEQA.

4. We have reviewed and considered the information contained in the final EIR and the final EIR reflects our independent judgment.

5. The EIR identifies the significant adverse impacts of the proposed project, as well as a reasonable range of alternatives that feasibly attains most of the basic project objectives but avoids or substantially lessens any of the significant effects of the project.

6. The applicant for a CPCN has the burden of affirmatively establishing the reasonableness of all aspects of its application.

7. The CAISO Planning Standards require the CAISO to apply NERC TPL standards to facilities with voltages less than 100kV or otherwise not covered under the NERC BES definition that have been turned over to the CAISO operational control.

8. The SOC 138kV facilities are classified as part of the BES because the facilities are under CAISO operational control.

9. The SOC 138kV facilities are subject to the NERC TPL standards.

10. As of January 1, 2016, NERC TPL-001-4 is the enforceable, governing standard for transmission system planning performance requirements.

11. NERC TPL-001-4 does not allow non-consequential load loss after a single contingency event in the long-term transmission planning horizon.

12. NERC TPL-001-4 limits load-drop under single contingencies to 75 MW.

13. Pub. Util. Code § 1001 places an ongoing responsibility on this Commission to evaluate the public convenience and necessity of proposed transmission projects, and therefore we independently assess the proceeding record to determine whether projects or alternatives are appropriate on the basis of reliability, safety, and economics.

14. The No Project Alternative does not appear to be consistent with the 2016 TPL-001-4, NERC reliability standard.

15. Alternatives B.1, B.2, B.3 and B.4 do not appear to be consistent with the 2016 TPL-001-4, NERC reliability standard.

16. Alternatives C.1, C.2, and D do not appear to be consistent with the 2016 TPL-001-4, NERC reliability standard.

17. Alternative F does not appear to meet the NERC and CAISO transmission planning standards.

18. Alternative G does not does appear to meet the NERC and CAISO transmission planning standards.

19. Alternative J's does not appear to meet the CAISO transmission planning standard.

20. A CPCN should be issued approving SDG&E's proposed project, as it is the only configuration that provides the requisite level of reliability

21. A project cost cap equal to the project's estimated cost of $318 million should be set.

O R D E R

IT IS ORDERED that:

1. The San Diego Gas & Electric Company's request for a Certificate of Public

2. Convenience and Necessity to construct the South Orange County Reliability Enhancement Project is approved.
3. A cost cap of $318 million is adopted for this project.
4. All pending motions are hereby deemed denied.
5. Application 12-05-020 is closed.

Dated ____________________________, at San Francisco, California.